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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/309,211	05/10/1999	HY MURVEIT	NUAN-00800	7221

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EXAMINER

AZAD, ABUL K

ART UNIT	PAPER NUMBER
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2654

DATE MAILED: 10/01/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/309,211

Applicant(s)

MURVEIT ET AL.

Examiner

ABUL K. AZAD

Art Unit

2654

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 July 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10,12-26,28-40 and 42-58 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10,12-26,28-40 and 42-58 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 18.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Response to Amendment

1. This action is in response to the communication filed on July 22, 2002.
2. Claims 1-10, 12-26, 28-40 and 42-58 are pending in this action.
3. The applicant's arguments with respect to claims 1-10, 12-26, 28-40 and 42-58 have been fully considered but they are not deemed to be persuasive. For examiner's response to the applicant's arguments or comments, see the detailed discussion in the Response to the Arguments section.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

5. Claims 1-10, 12-26, 28-40 and 42-58 are rejected under 35 U.S.C. 102(e) as being anticipated by Kanevsky et al. (US 5,897,616).

As per claim 1, Kanevsky teaches, "a method of adapting a speech recognition system," wherein the method comprises steps of:

"obtaining an identification of a speaker" (col. 8, lines 53-55);

"obtaining a sample of a speaker's speech during a first remote session" (col. 8, lines 45-55, reads on "the system collects voice samples from the caller's answers to the plurality of questions and builds a user voice model therefrom.");

“recognizing the speaker's speech utilizing the speech recognition system during the first remote session” (col. 8, lines 45-48, reads on “based only on the scores achieved by the answers received to the questions, the server makes a determination whether or not to permit access to the caller.”);

“modifying the speech recognition system according to the sample thereby forming a speaker-specific modified speech recognition system” (col. 8, lines 45-55);

“storing a representation of the speaker-specific modified speech recognition system in association with the identification of the speaker” (col. 8, lines 45-55)

“using the representation of the speaker-specific modified speech recognition system to recognize speech during a subsequent remote session with the speaker” (col. 8, lines 45-55)

As per claim 2, Kanevsky teaches, “comprising a step of cumulatively modifying the speech recognition system according to speech samples obtained during one or more remote sessions with the speaker” (col. 8, lines 45-55).

As per claim 3, Kanevsky teaches, “wherein the speaker is a telephone caller” (col. 1, lines 58-67).

As per claim 4, Kanevsky teaches, “wherein the step of modifying the speech recognition system comprises a step of modifying an acoustic model thereby forming a speaker-specific modified acoustic model and wherein the step of storing a representation of the speaker-specific modified speech recognition system comprises a step of storing a representation of the modified acoustic model” (col. 8, lines 45-55).

As per claim 5, Kanevasky teaches, "wherein the representation of the speaker-specific modified acoustic model is a set of statistics which can be utilized to modify a pre-existing acoustic model" (col. 8, lines 31-35 and col. 11, lines 3-20).

As per claim 6, Kanevasky teaches, "wherein the representation of the speaker-specific modified acoustic model is a set of statistics which can be utilized to modify incoming acoustic speech" (col. 8, lines 31-35 and col. 11, lines 3-20)

As per claim 7, Kanevasky teaches, "a step of utilizing the speaker-specific modified speech recognition system during the first remote session with the speaker" (col. 8, lines 45-55).

As per claim 8, Kanevasky teaches, "wherein the speech recognition system is speaker-independent prior to first remote session" (col.8, lines 45-48).

As per claim 9, Kanevasky teaches, "wherein the step of modifying the speech recognition system is performed during the first remote session" (col. 8, lines 45-48).

As per claim 10, Kanevasky teaches, "wherein the step of modifying the speech recognition system is performed after termination of the first remote session" (col. 8, lines 30-35).

As per claims 13-15, they are interpreted and thus rejected for the same reasons set for the in the rejection of the claims 8-10.

As per claims 12 and 16, Kanevasky teaches, "step of authenticating the speaker's identification by the speaker's speech" (col. 8, lines 45-55).

As per claims 17-26, 28-40 and 42-58, they are interpreted and thus rejected for the same reasons as set forth in the rejection of the claims 1-10 and 12-16.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 1-10, 12-26, 28-40, 42-58 are alternatively rejected under 35 U.S.C. 103(a) as being unpatentable over Larkey (US 5,127,055).

As per claim 1, Larkey teaches, "a method of adapting a speech recognition system, wherein the method comprises steps of:

"obtaining a sample of a speaker's speech during a first remote session" (col. 4, lines 10-25, incoming speech as the sample of speaker's speech during first remote session)

"recognizing the speaker's speech utilizing the speech recognition system during the first remote session" (Abstract, reads on "the quality values are updated during, during the speech recognition process"; col. 4, lines 31-42, "the stored reference patterns are dynamically updated and adapted according to the incoming speech")

"modifying the speech recognition system according to the sample thereby forming a speaker-specific modified speech recognition system" (col. 1, lines 49-56,

manner of pronouncing and a selected word vocabulary are speaker-specific modification of speech recognition);

“storing a representation of the speaker-specific modified speech recognition” (col. 4, lines 31-45, reads on “stored reference pattern are dynamically updated”);

“using the representation of the modified speech recognition system to recognize speech during a subsequent remote session with the speaker” (col. 2, line 56 to col. 3, line 19)

Larkely does not explicitly teach, “modified speech recognition system in association with an identification of the speaker.” However, Larkely teaches, “a dynamic reference pattern updating mechanism for improving the precision with which incoming unknown speech can be identified, and providing reference patterns which better characterize a speaker’s manner of pronouncing a selected word vocabulary. (col. 1, lines 51-56)” Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to train speaker by knowing speaker’s manner of pronouncing a selected word vocabulary so as to recognized speech and user at the same time.

As per claim 2, Larkey teaches, “comprising a step of cumulatively modifying the speech recognition system according to speech samples obtained during one or more remote sessions with the speaker” (Abstract, the quality values are updated, during the speech recognition process; col. 4, lines 31-42, “the stored reference patterns are dynamically updated and adapted according to the incoming speech”).

As per claim 3, Larkey does not explicitly teach, "the speaker is a telephone caller." It would have been obvious to one of ordinary skill in the art at the time of the invention to use a telephone instead a microphone so as to users convenience (official notice has been taken based on speaker is a telephone caller).

As per claim 4, Larkey teaches, "wherein the step of modifying the speech recognition system comprises a step of modifying an acoustic model thereby forming a speaker-specific modified acoustic model and wherein the step of storing a representation of the speaker-specific modified speech recognition system comprises a step of storing a representation of the modified acoustic model" (col. 2, line 56 to col. 3, line 13).

As per claim 5, Larkey teaches, "wherein the representation of the speaker-specific modified acoustic model is a set of statistics which can be utilized to modify a pre-existing acoustic model" (col. 2, lines 1-15).

As per claim 6, Larkey teaches, "wherein the representation of the speaker-specific modified acoustic model is a set of statistics which can be utilized to modify incoming acoustic speech" (col. 2, lines 1-15)

As per claim 7, Larkey teaches, "a step of utilizing the speaker-specific modified speech recognition system during the first remote session with the speaker" (col. 1, line 64 to col. 2, line 15).

As per claim 8, Larkey teaches, "wherein the speech recognition system is speaker-independent prior to first remote session" (col. 1, line 64 to col. 2, line 15).

As per claim 9, Larkey teaches, "wherein the step of modifying the speech recognition system is performed during the first remote session" (col. 1, line 64 to col. 2, line 15).

As per claim 10, Larkey teaches, "wherein the step of modifying the speech recognition system is performed after termination of the first remote session" (col. 2, lines 1-15).

As per claims 12 and 16, Lurkey does not explicitly teach, "authenticating the speaker's identification by the speaker's speech". However, Larkely teaches, "a dynamic reference pattern updating mechanism for improving the precision with which incoming unknown speech can be identified, and providing reference patterns which better characterize a speaker's manner of pronouncing a selected word vocabulary. (col. 1, lines 51-56)" Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to train speaker by knowing speaker's manner of pronouncing a selected word vocabulary so as to recognized speech and user at the same time.

As per claims 13-15, they have similar limitations as claims 8-10, so that claims 13-15 are also rejected for same reasons.

As per claims 17-26, 28-40 and 42-58, they are interpreted and thus rejected for the same reasons set forth in the rejection of claims 1-10, 12-17.

Response to Arguments

8. The applicant argues: "Kanevsky does not teach a system to modifying a speech recognition system"

The examiner disagrees with the applicant's assertion. The Kanevsky does teaches a system to modifying a speech recognition system see col. 8, lines 45-50, the limitation can be reads on "the system collects voice samples from the callers answers to the plurality of questions and builds a user voice model (e.g., users model) therefrom. Therefore, it is clear that Kanevesky teaches, to modify a speech recognition system from speech model (answer of questions to identify the speaker) to speaker dependent model (User model).

The applicant further argues: "kanevesky teaches a system to modify a speaker identification process. Kanevsky does not teach a system to modify a speech recognition system."

The examiner notes that Kanevsky and the applicant booth teach to modify a speaker identification system. Where in the independent claims the applicant claimed as obtained an identification of a speaker by speaker's speech and obtained speech sample of the speaker during remote season to modify speaker-specific model. Kanevsky teaches, from the question and answer session the system determines whether or not to permit access to the callers then system collects voice samples from the callers answer to the plurality of question and builds a user voice model (e.g., user model) therefrom (col. 8, lines 45-50). From above it is clear to a person skill in the art that booth Kanevsky and the applicant teaches the same limitations.

The applicant further argues that at no point in Kanevsky are collected voice samples used to modify the ASR 28.

Kanevsky teaches this limitation at col. 8, lines 48-50.

9. In amendment Paper No. 5, submitted on January 22, 2001, the applicant argues: "there is not indication that the speech recognition system as taught by Larkey is capable of performing the speaker-specific modeling and adapting as taught by present invention".

The examiner disagrees with the applicant, because Larkey teaches at col. 1, lines 49-57, which reads, "object of invention are a dynamic reference pattern updating mechanism for improving the precision with which incoming unknown speech can be identified, reference patterns which better characterized a speaker's manner of pronouncing a selected word vocabulary". Here it is clear that that there is an indication of Larkey is capable of performing the speaker-specific modeling (reference Pattern and selected vocabulary) and adapting as taught by the instant application.

Conclusion

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Abul K. Azad** whose telephone number is **(703) 305-3838**.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, **Marsha D. Banks-Harold**, can be reached at **(703) 305-4379**.

Any response to this action should be mailed to:

Commissioner for Patents
Washington, D.C. 20231

Or faxed to:

(703) 872-9314

(For informal or draft communications, please label "PROPOSED" or "DRAFT")

Art Unit: 2654

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA, Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application should be directed to the Technology Center's Customer Service Office whose telephone number is (703) 306-0377.

Abul K. Azad

September 30, 2002

Marsha D Banks-Harold

MARSHA D. BANKS-HAROLD
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